

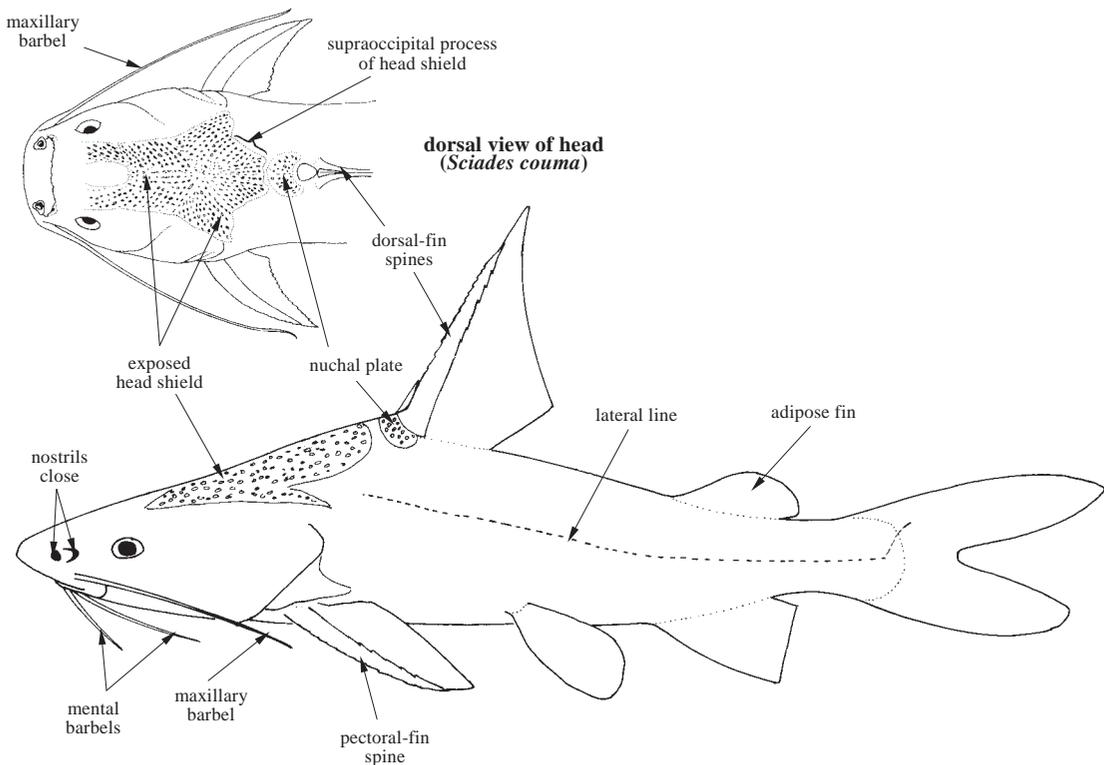
Order SILURIFORMES

ARIIDAE

Sea catfishes

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Diagnostic characters: Medium- to large-sized fishes. The larger species attain over 1 m. Snout and head rounded to depressed. **Head covered by an often-rugose bony shield, part of which is clearly visible beneath the thin skin in most species (nearly obscured by thick skin and muscles in some); the supraoccipital process or posterior portion of this shield extends posteromedially to meet the nuchal plate (a separate bone at base of dorsal-fin spines) and its shape is characteristic in some species.** Eye medium-sized to small. **Two pairs of nostrils closely approximated on each side, the posterior pair partly covered by a flap of skin.** Mouth terminal to inferior. Teeth in jaws fine; those on palate fine, arranged in one or more patches or absent. **Three pairs of barbels on head, 1 maxillary and 2 mental (mandibular).** **Gill membranes fused with each other and attached to isthmus, with at most a narrow free posterior flap.** **Gill rakers present on anterior faces of all arches, total number 10 to 22 on first arch; rakers present or absent on posterior faces of first and second arches.** **Dorsal fin short, with long, more or less serrated spine preceded by very short one and followed by 7 soft rays.** **A fleshy adipose fin always present opposite the anal fin; anal fin with 16 to 24 soft rays.** **Caudal fin forked, with 13 branched rays (6 in upper and 7 in lower lobe).** **Pectoral fins low-set, with more or less serrated spine and 9 to 13 soft rays.** **Pelvic fins with 6 soft rays.** **Scales absent.** Lateral line complete. **Lapillus otolith enlarged.** Swimbladder physostomous, oval, and sac-like, lacking a posterior chamber. **Colour:** usually greyish, dark grey-brown, some species with a silvery lateral stripe; paler to white below.

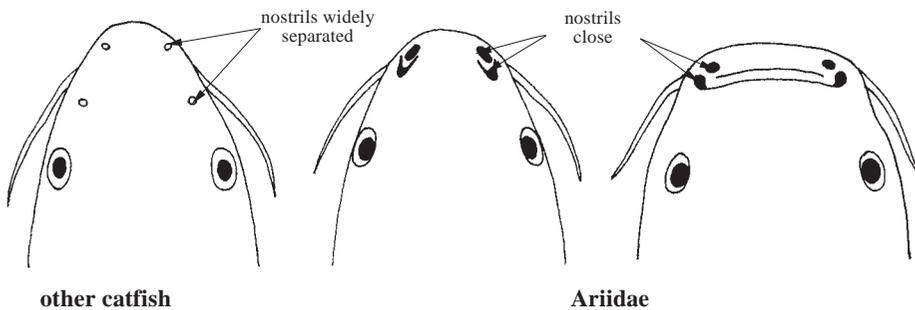


Habitat, biology, and fisheries: Sea catfishes occur in fully marine waters, close to shore marine environments, brackish lagoons and estuaries, and completely freshwaters of warm-temperate and tropical regions. The representatives known from Fishing Area 34 include some large species attaining over 160 cm in total length and they are mostly confined to the coastline of the continent, with 1 species mainly confined to freshwater (*Carlarius gigas*). They are locally abundant in the turbid waters of certain habitats, particularly large river estuaries and mangrove-lined lagoons. Sea catfishes' diets range from omnivorous, including detritus, to strongly carnivorous, including large bony fishes and crustaceans. Reproduction is highly specialized; the males incubate the eggs and vitelline young in their mouths. The sea catfishes include several species of high economic value. The reported catch has increased over the last 10 years. They are captured with a variety of gear, including bottom trawls, longlines, seines, castnets, traps, and hook-and-line. The flesh is usually of good quality. The sharp dorsal- and pectoral-fin spines can inflict painful wounds.

Remarks: The family is often listed as Tachysuridae and sometimes Bagridae in the literature. The generic nomenclature follows Marcenik and Menezes (2007).

Similar families occurring in the area

All other catfish families in the area are confined to freshwater and have the anterior and posterior nostrils widely separated, the posterior nostrils not covered by a flap of skin; branched caudal-fin rays fewer or more than 13. The most important commercial freshwater families are Bagridae (bagrid catfishes), Clariidae (airbreathing or labyrinth catfishes) and Mochokidae (= Synodontidae or upside-down catfishes or squeakers).



Key to species of Ariidae occurring in the area

- 1a. Gill rakers on posterior surfaces of first and second arches numerous; humeral process fan-shaped (Fig. 1); top of head nearly smooth, covered by thick skin and muscle . . . → 2
- 1b. No gill rakers or at most 1 or 2 rakers on posterior surfaces of first and second arches; humeral process pointed, triangular to elongated, but never fan-shaped (Fig. 2); rear part of skull (head shield) broadly visible beneath the thin skin, rugose. → 3

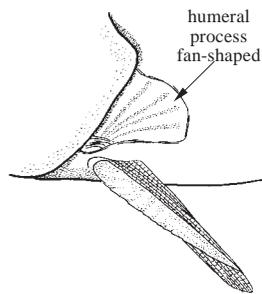


Fig. 1 *Galeichthys*

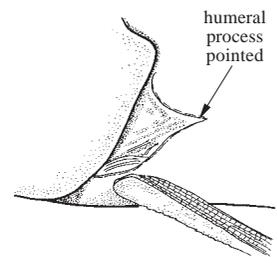


Fig. 2 *Carlarius*

- 2a. Caudal fin slightly forked, its lobes rounded and short; caudal peduncle short and deep, its depth more than half its length; dark brown to blackish above, belly and underside of head slightly lighter and densely covered with fine brown specks ***Galeichthys ater***
- 2b. Caudal fin deeply forked, its lobes pointed and long; caudal peduncle relatively slender, its depth less than half its length; greyish to greenish brown above, sides and ventral surfaces much lighter, dark specks sometimes present laterally on belly but never midventrally ***Galeichthys feliceps***

- 3a. Anterior gill rakers on first arch 17 to 22 → 4
 3b. Anterior gill rakers on first arch 11 to 15 → 5
- 4a. Teeth on palate in 2 single subtriangular blocks (Fig. 3) *Carlarius gigas*
 4b. Teeth in palate in 2 paired patches, anterior pair trapezoidal and posterior pair elongate (Fig. 4) *Carlarius latiscutatus*
- 5a. Palatal teeth absent or in 1 or 2 small patches (patch on one or both sides frequently missing); if present, distance between patches much greater than diameter of patch (Fig. 5) *Carlarius heudelotii*
 5b. Palatal teeth in 2 large patches separated by their own diameter or less (Fig. 6) . *Carlarius parkii*

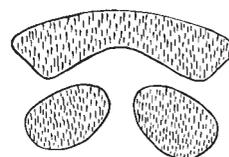
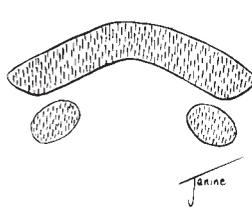
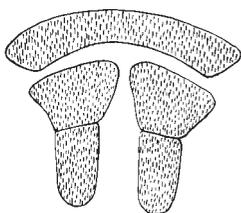
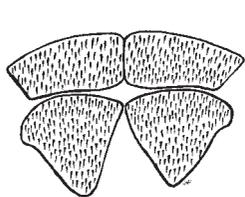


Fig. 3 *Carlarius gigas* Fig. 4 *Carlarius latiscutatus* Fig. 5 *Carlarius heudelotii* Fig. 6 *Carlarius parkii*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Carlarius gigas* (Boulenger, 1911).
-  *Carlarius heudelotii* (Valenciennes, 1840).
-  *Carlarius latiscutatus* (Günther, 1864).
-  *Carlarius parkii* (Günther, 1864).
-  *Galeichthys ater* Castelnau, 1861.
-  *Galeichthys feliceps* Valenciennes, 1840.

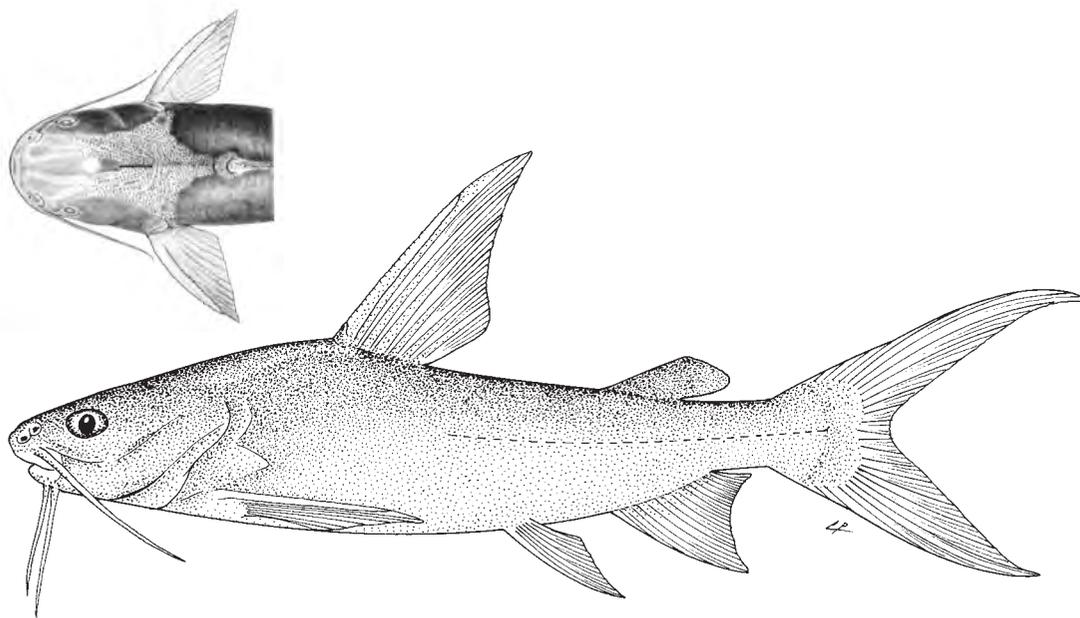
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***Carlarius gigas* (Boulenger, 1911)**

Frequent synonyms / misidentifications: *Arius gigas* Boulenger, 1911 / None

FAO names: **En** – Giant sea catfish; **Fr** – Mâchoiron géant; **Sp** – Bagre gigante.



Diagnostic characters: Head rounded and only slightly flattened above; snout rounded transversely (slightly pointed in small specimens); mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental), maxillary barbel just reaching to pectoral-fin bases. **Exposed head shield clearly visible**, very rugose, extending anteriorly to opposite eyes; **supraoccipital process moderately broad at base**, narrower and truncated posteriorly, with a very low median keel; nuchal plate short, rugose, and crescent-shaped; **a very short, narrow fleshy groove in median depression of head falling well short of eyes**. **Teeth on palate villiform in 2 large subtriangular patches, which are only slightly separated at midline**. **No gill rakers on posterior surfaces of first and second arches; total number of anterior gill rakers on first arch 18 to 21, on second arch 18 to 20**. Dorsal and pectoral fins with a strong, serrated, erectile spine; soft rays of pectoral fins usually 12; adipose fin well developed; dorsal lobe of caudal fin slightly elongated. **Colour:** light yellowish brown above, grading to slightly lighter below.

Size: Maximum at least to 165 cm and 50 kg; young to 30 cm most commonly captured.

Habitat, biology, and fisheries: The limited information suggests its presence in shallow near-shore marine habitat close to river mouths, in estuaries, and in rivers. Data on the extent of exploitation are not available. Separate statistics are not reported for this species.

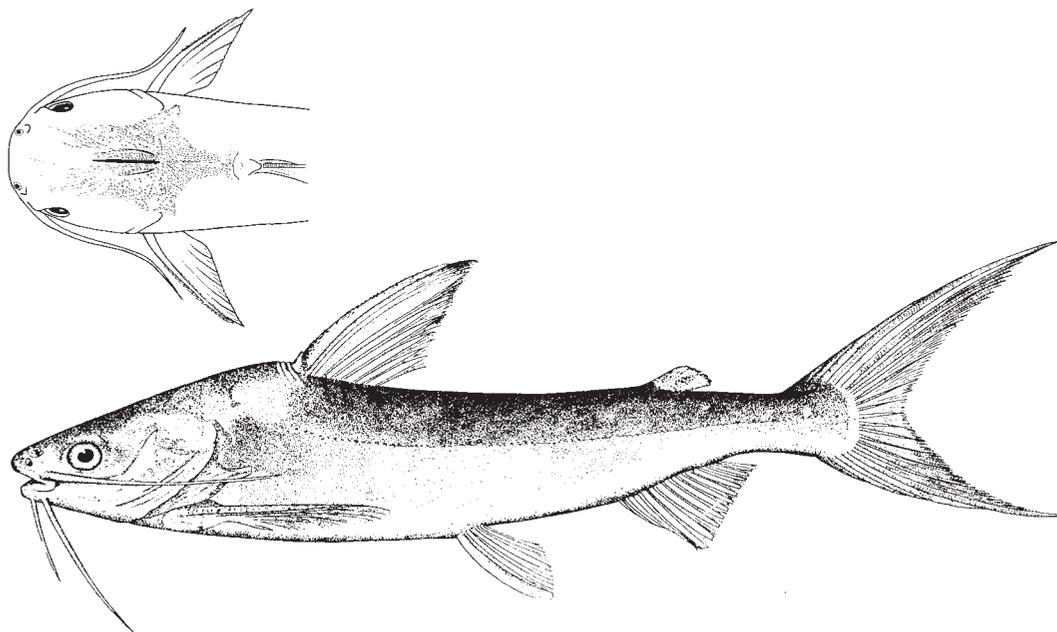
Distribution: Known only from vicinity of rivers flowing from the north into the Gulf of Guinea, such as Volta and Niger rivers. Unverified reports indicate a presence in the lower Congo River estuary.



Carlarius heudelotii (Valenciennes, 1840)

Frequent synonyms / misidentifications: *Arius heudelotii* Valenciennes, 1840; *A. mercatoris* Poll, 1949 / None.

FAO names: **En** – Smoothmouth sea catfish; **Fr** – Mâchoiron banderille; **Sp** – Bagre bocalisa.



Diagnostic characters: Head rounded, rather arched, only slightly flattened above; snout rounded transversely, mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, blackish in colour, the maxillary barbels extend well beyond pectoral-fin bases. **Exposed head shield well visible**, extending anteriorly to opposite eyes; **supraoccipital process rather narrow at base**, tapering posteriorly, with a relatively well-developed median keel; nuchal plate short, rugose and crescent-shaped; long narrow fleshy groove in median depression of head, approaching posterior edge of eyes. **Teeth on palate, if present, villiform, in 2 small and widely separated patches; separation much greater than diameter of patches; sometimes one or both patches absent. Usually no (infrequently 1 or 2 tiny) gill rakers on posterior surfaces of first and second arches; total number of anterior gill rakers on first arch 13 to 15, on second arch 10 to 14.** Dorsal and pectoral fins with strong, serrated, erectile spine; soft rays in pectoral fins usually 11, sometimes 10 or 12; adipose fin well developed; anal fin with 18 or 19 rays. **Colour:** median brown to dark blue above, lighter brown to blue below and on sides, abdomen plain whitish.

Size: Maximum reaches 83 cm and 8.5 kg; common to 35 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters and river estuaries. Separate statistics are not reported for this species, but it surely makes up for a significant share of the sea catfish catches in the area. Caught with bottom trawls, purse seines, fixed bottom nets, gillnets, and longlines. Marketed fresh, dried, salted, smoked, and converted to fishmeal.

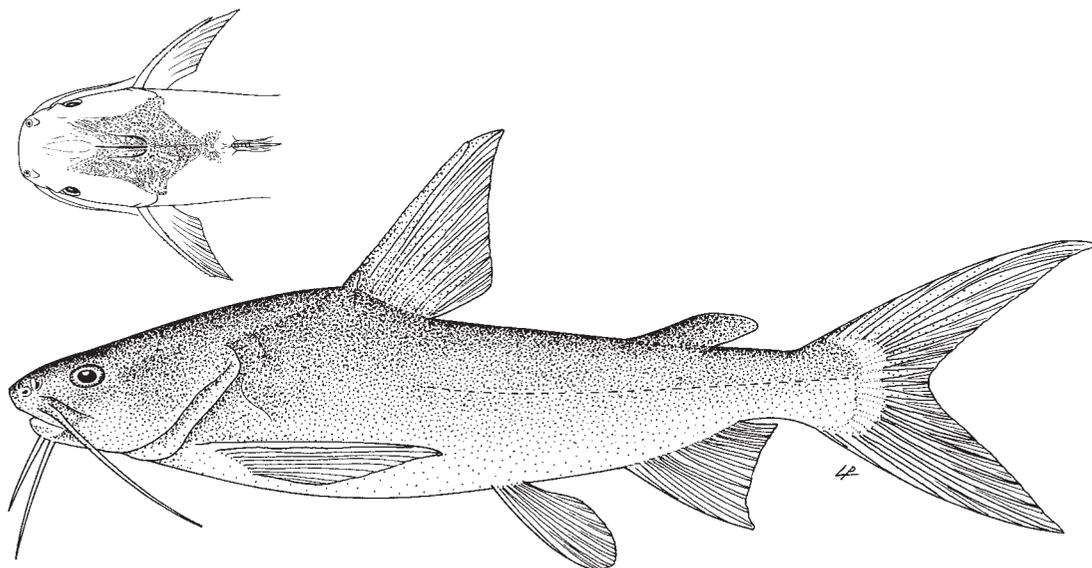
Distribution: From Cape Blanc to Gabon and possibly Angola.



Carlarius latiscutatus (Günther, 1864)

Frequent synonyms / misidentifications: *Arius latiscutatus* Günther, 1864; *A. gambensis* (Bowdich, 1825); *Tachysurus gambensis* (Bowdich, 1825); *T. lagoensis* (Pfaff, 1933) / None.

FAO names: **En** – Rough-head sea catfish; **Fr** – Mâchoiron de tête rugueuse; **Sp** – Bagre cabecirugoso.



Diagnostic characters: Head rounded, only slightly flattened above; snout rounded transversely; mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, maxillary barbels reaching or passing pectoral-fin bases. **Exposed head shield clearly visible**, coarsely rugose, extending anteriorly to opposite eyes; **supraoccipital process prominently broad at base**, tapering posteriorly, with median keel; nuchal plate short, crescent-shaped and very rugose; fleshy groove in median depression of head extends anteriorly almost to opposite eyes. **Teeth on palate villiform, in 2 pairs of patches, anterior patch wide and trapezoidal; posterior patch elongated and continuous with anterior patch. No gill rakers on posterior surfaces of first and second arches; total number of anterior gill rakers on first arch 17 to 22, on second arch 18 to 23.** Dorsal and pectoral fins each with serrated, erectile spine; soft rays in pectoral fin 11 or 12; adipose fin well developed; anal fin with 19 rays (2 specimens). **Colour:** dark brown to greenish above, lighter on lower sides and whitish below.

Size: Maximum to about 85 cm; common to 40 cm.

Habitat, biology, and fisheries: Found chiefly in shallow marine waters. Feeds on fish, benthic invertebrates, zooplankton, and detritus. Reported to be common in winter. Separate statistics are not reported for this species, but it doubtless makes up for a part of the total catches of sea catfishes from the area. Caught with bottom trawls, purse seines, fixed bottom nets, gillnets, and longlines. Marketed fresh, dried-salted, smoked, and converted to fishmeal.

Distribution: Senegal River Basin and along coast from northern Senegal to Namibia, around Kunene River.

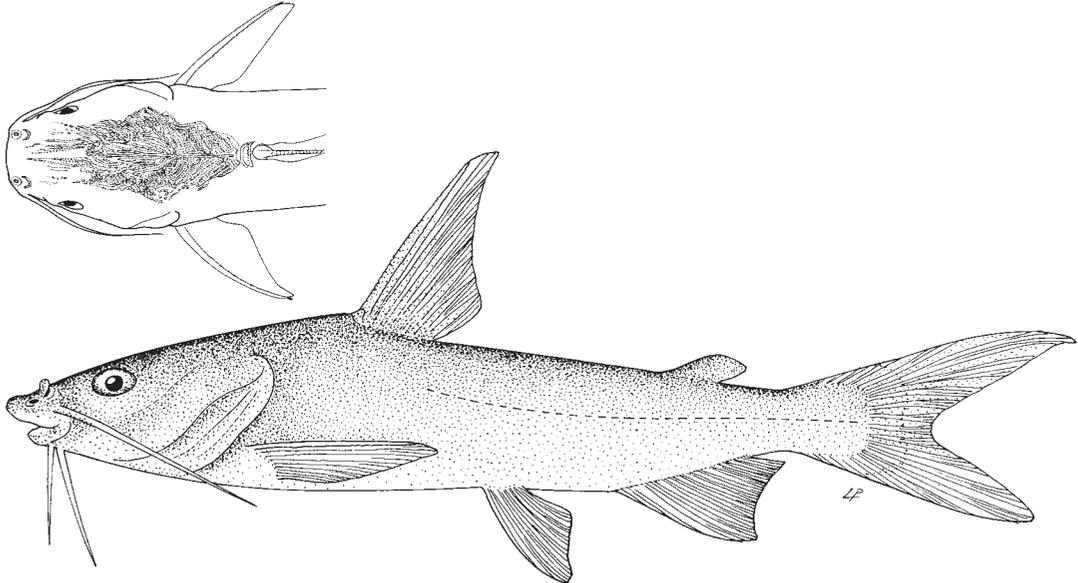
Remarks: As of the time of writing, Eschmeyer's Catalogue of Fishes places this species in the genus *Arius*. This publication, however, maintains the name *Carlarius latiscutatus* and recognizes the restriction of the genus *Arius* to the Indian subcontinent, as supported by Marceniuk and Menezes, 2007.



Carlarius parkii (Günther, 1864)

Frequent synonyms / misidentifications: *Arius parkii* Günther, 1864; *Arius capellonis* Steindachner, 1867; *Tachysurus capellonis* (Steindachner, 1867); *Arius granulatus* Peters, 1868 / *Arius heudeloti* (not Valenciennes, 1840) Boulenger, 1911; *Tachysurus heudelotii* (not Valenciennes, 1840) Fowler, 1936.

FAO names: **En** – Guinean sea catfish; **Fr** – Mâchoiron de Guinée; **Sp** – Bagre de Guinea.



Diagnostic characters: Head not broadened, but slightly rounded and flattened above; snout rounded transversely; mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, maxillary barbels reaching or barely passing pectoral-fin bases. **Exposed head shield clearly visible**, moderately rugose, extending anteriorly to opposite eyes or slightly beyond; **supraoccipital process moderately broad at base**, tapering posteriorly, with median keel; long narrow fleshy groove in median depression of head, reaching opposite posterior edge of eyes. **Teeth on palate villiform in 2 rounded and relatively well-developed patches, separated by their own diameter or less. No gill rakers on posterior surfaces of first and second arches; anterior gill rakers on first arch 11 to 14, on second arch 10 to 13.** Dorsal and pectoral fins each with a strong, serrated, erectile spine; soft rays in pectoral fins 11 to 13, usually 11 or 12; adipose fin well developed; anal fin with 19 to 21 rays. **Colour:** dark brown to green above and light brown to silvery below; fin tips darker.

Size: Maximum to about 75 cm; common to 40 cm.

Habitat, biology, and fisheries: An abundant species that inhabits shallow coastal waters and river estuaries; prefers brackish and marine waters along the coast. Feeds on fish and shrimp. Separate statistics are not reported for this species, but it doubtless makes up for part of the total sea catfish catches from the area. Caught with bottom trawls, purse seines, fixed-bottom nets, gillnets, and longlines. Marketed fresh, dried, salted, smoked, and converted to fishmeal.

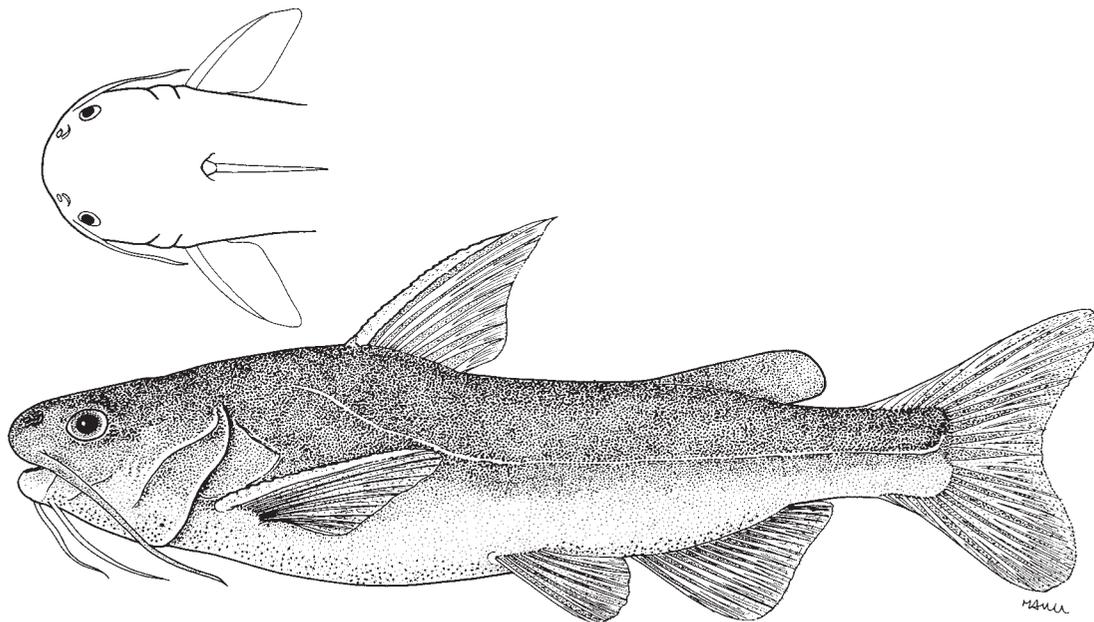
Distribution: From Cape Blanc to Angola, sporadically to Morocco; one record from Mediterranean Israel.



***Galeichthys ater* Castelnau, 1861**

Frequent synonyms / misidentifications: *Arius ater* (Castelnau, 1861) / None.

FAO names: En – Black sea catfish; Fr – Mâchoiron noir; Sp – Bagre negro.



Diagnostic characters: Head flattened above and relatively wide; snout rounded transversely; mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, maxillary barbels reaching at most to pectoral-fin bases. Head relatively smooth above, shield not prominent; no fleshy groove in median depression of head or groove very shallow. Teeth on palate villiform, in 2 transverse patches joining medially and tapering at edges. Numerous gill rakers present on posterior surfaces of all arches; anterior gill rakers on first arch 10 to 13; posterior gill rakers on first arch 12 to 16; anterior gill rakers on second arch 11 to 14; posterior gill rakers on second arch 11 to 15. Humeral process fan-shaped. Dorsal and pectoral fins each with strong, serrated, erectile spine; soft rays in pectoral fins 10 to 12; adipose fin well developed; anal fin with 19 to 22 rays. Caudal fin slightly forked, its lobes rounded and short; caudal peduncle short and deep, its depth more than half its length. **Colour:** dark brown to blackish above, belly and underside of head slightly lighter and densely covered with fine brown specks.

Size: Maximum to about 45 cm; common to 32 cm.

Habitat, biology, and fisheries: Inhabits coastal marine waters, mostly over reefs and rocky bottoms to at least 60 m; not found in estuaries or freshwaters. Separate statistics are not reported for this species. Caught chiefly with gillnets and on hook-and-line. It is a bycatch of the line fishery of kob (*Sciaenidae*). Taken in small numbers by recreational boat and skiboat fisheries. Utilized mostly fresh.

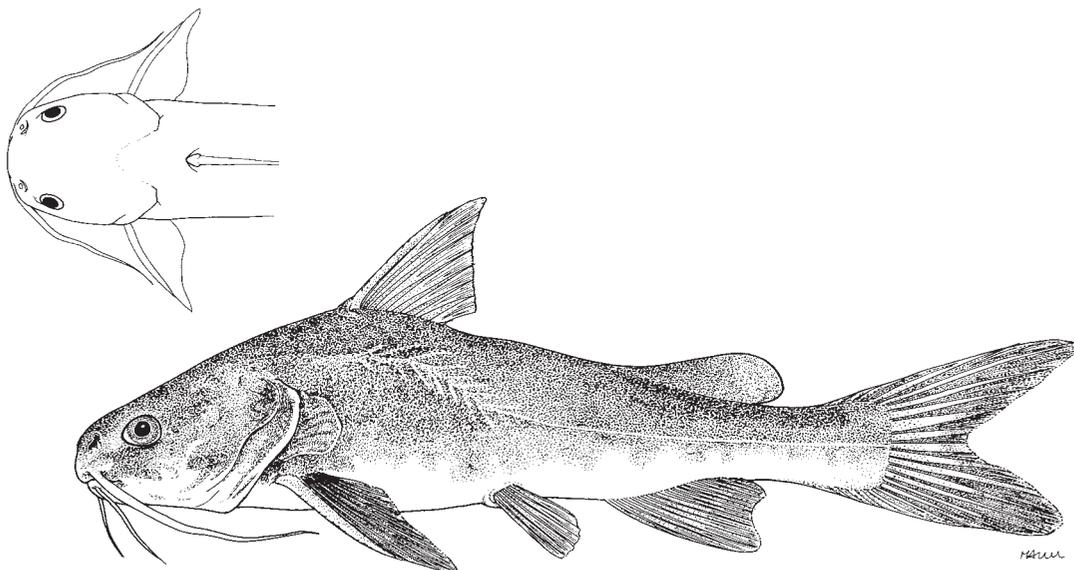
Distribution: In the area, only around Walvis Bay (Namibia); outside of eastern central Atlantic extending along coast of South Africa to Margate, southern Natal.



***Galeichthys feliceps* Valenciennes, 1840**

Frequent synonyms / misidentifications: *Tachysurus feliceps* (Valenciennes, 1840), *Arius feliceps* (Valenciennes, 1840) / None.

FAO names: En – White barbel; Fr – Barbillon blanc; Sp – Bagre barba blanca.



Diagnostic characters: Head arched, only slightly flattened above; snout rounded transversely; mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, maxillary barbels reaching beyond pectoral-fin bases. Head relatively smooth above, shield not prominent; no fleshy groove in median depression of head or groove very shallow. Teeth on palate villiform, in 2 transverse patches joining medially and tapering at edges. Numerous gill rakers present on posterior surfaces of all arches; anterior gill rakers on first arch 11 to 14; posterior gill rakers on first arch 12 to 19; anterior gill rakers on second arch 12 to 16; posterior gill rakers on second arch 14 to 17. Humeral process fan-shaped. Dorsal and pectoral fins each with strong, serrated, erectile spine; soft rays in pectoral fins 9 to 11; adipose fin well developed; anal fin with 16 to 21 rays. Caudal fin deeply forked, its lobes pointed and long; caudal peduncle relatively slender, its depth less than half its length. Colour: greyish to greenish brown above, sides and ventral surfaces clearly lighter, dark specks sometimes present laterally on belly but never midventrally; sometimes with a whitish or silvery band superimposed over lateral line on body.

Size: Maximum to about 55 cm and 3.8 kg; common to 33 cm.

Habitat, biology, and fisheries: Common in estuaries and in marine waters over sandy and muddy substrata; taken as deep as 126 m, common to 60 m. Feeds on muddy bottoms mainly on crayfish, small fishes, and crabs. Separate statistics are not reported for this species. Caught chiefly with gillnets and on hook-and-line. Utilized mostly fresh.

Distribution: In the area, from southern Angola to northern Namibia. Outside of eastern central Atlantic, extends across South Africa to southern Natal.

